

Proposed NSPS/EG Regulations

A Look At Industry Comments on the Proposed Rules

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Presentation Outline

- Introduction
- Highlight of current NSPS/EG Rules
- Applicability of proposed NSPP/EG Rules
- Impact of proposed changes on landfills
- What's next?

Introduction

- On July 17, 2014 EPA published two notices of rulemaking:
 - Proposed New Source Performance Standards (NSPS) for MSW landfills – Subpart XXX
 - Advanced Notice of Proposed Rulemaking (ANPRM) requesting public input on reducing emissions from existing MSW Landfills
- On August 27, 2015 EPA published two notices of rulemaking:
 - Supplemental Proposed NSPS for MSW landfills – Subpart XXX
 - Proposed Emissions Guidelines (EG) and Compliance Times for MSW Landfills – Subpart Cf

NSPS Subpart WWW

- Promulgated in 1996
- NSPS for new sources, EG for existing ones
- GCCS requirements for sites meeting size criteria with > 50 Mg/yr NMOC emissions
 - Control emissions by collecting the gas and sending to treatment system or combustion device.
 - Considerable monitoring, recordkeeping, reporting requirements.



Emissions Guidelines (EG)

- Emission Guidelines (EG) are established for existing sources under CAA section 111(d)
- Provide guidance for regulating landfill gas emissions which the States are required to implement through individual State plans
- Current EG (40 CFR Subpart Cc) applies to existing landfills that accepted waste on or after November 8, 1987 and commenced construction or modification before May 30, 1991

Applicability of Proposed Subpart XXX

- Will apply to MSW landfills that commenced construction, reconstruction, or modification **after** July 17, 2014
- **Modification** is defined as an increase in the permitted volume design capacity of the landfill by either lateral or vertical expansion based on its permitted design capacity as of July 17, 2014
- Sites subject to Subpart XXX will need to immediately implement any changes required once the rule is finalized

Applicability of Proposed Subpart Cf

- Will apply to existing MSW landfills that accepted waste after November 8, 1987 and commenced construction, reconstruction, or modification on or **before** July 17, 2014
- This rule will replace both the existing NSPS rule (Subpart WWW) and the existing EG (Subpart Cc)
- It will apply to all existing landfills that have not been expanded or were not newly constructed after July 17, 2014
- EPA guidelines must be implemented at state level so there will be a lag time once EG is issued final

Proposed Changes to NSPS/EG Rules

1. Thresholds for installing GCCS
2. Closed landfill subcategory
3. Monthly wellhead monitoring
4. Surface emissions monitoring
5. Tier 4 demonstration
6. Startup, shutdown, and malfunction
7. Updating GCCS design plans
8. LFG Treatment

Thresholds For Installing Controls

WWW & EG

- NMOC emission threshold of 50 Mg/yr
- Design capacity threshold of 2.5 million megagrams (mass) and 2.5 million cubic meters (volume)

XXX & Cf

- NMOC emission threshold of 34 Mg/yr
- Design capacity remains the same
- Creates Subcategory for Closed Landfills

Thresholds For Installing Controls – Industry Feedback

WWW & EG

- NMOC emission threshold of 50 Mg/yr
- Design capacity threshold of 2.5 million megagrams (mass) and 2.5 million cubic meters (volume)

XXX & Cf

- NMOC emission threshold of 40 Mg/yr



Design capacity remains the same



Creates Subcategory for Closed Landfills

Closed Landfills Subcategory

WWW & EG

- None

Only Cf

- Allows subcategory for landfills closed on or before August 27, 2015
- Maintain 50 Mg/yr NMOC threshold for GCCS controls

Closed Landfills Subcategory

Industry Feedback

WWW & EG

- None

Only Cf

- Allows subcategory for landfills closed within **13 months of the publication of the final NSPS/EG rules**



Maintain 50 Mg/yr NMOC threshold for GCCS controls

Monthly Wellhead Monitoring

WWW & EG

- Pressure – must be negative
- Nitrogen or oxygen concentration – must be less than 5%
- Temperature – less than 131 degrees F
- Includes corrective actions for fluctuations

XXX & Cf

- Pressure – no change
- Monitor nitrogen / oxygen and temperature, but no target values
- Removes corrective actions for oxygen and temperature fluctuations

Monthly Wellhead Monitoring

Industry Feedback

WWW & EG

- Pressure – must be negative
- Nitrogen or oxygen concentration – must be less than 5%
- Temperature – less than 131 degrees F
- Includes corrective actions for fluctuations

XXX & Cf



Pressure – no change



Monitor nitrogen / oxygen and temperature, but no target values



Removes corrective actions for oxygen and temperature fluctuations

Surface Emissions Monitoring

WWW & EG

- Quarterly methane scan at 30 meter interval traversing the landfill and around the perimeter

XXX & Cf

- Quarterly methane scans at all cover penetrations and openings
- GPS coordinates at least 3 meter accuracy for each exceedance

Surface Emissions Monitoring

Industry Feedback

WWW & EG

- Quarterly methane scan at 30 meter interval traversing the landfill and around the perimeter

XXX & Cf

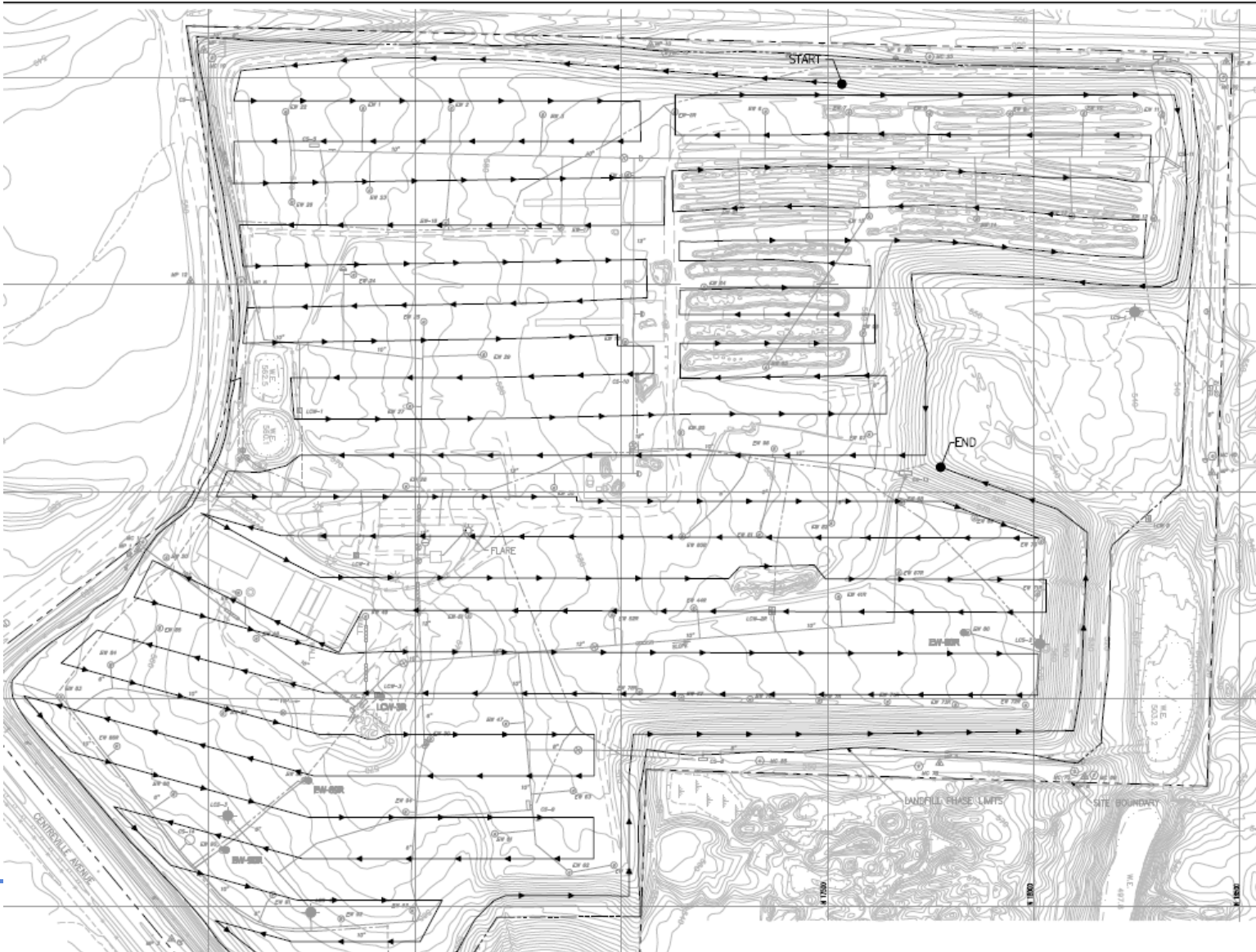


Quarterly methane scans at all cover penetrations and openings



GPS coordinates at least 3 meter accuracy for each exceedance

Surface Emissions Monitoring under WWW



0 120 240
SCALE IN FEET

LEGEND

- PROPERTY LINE
- SOLID WASTE BOUNDARY
- SSM MONITORING PATHWAY
- EXISTING GRADE (5' CONTOUR)
- EXISTING GRADE (10' CONTOUR)

NOTES

1. TYPICAL SPACING FOR THE MONITORING PATH IS APPROXIMATELY 50 FEET (100 FT). SOME LOCAL VARIATIONS MAY OCCUR TO ACCOMMODATE LANDFILL PHASING AND FIELD CONDITIONS AT THE TIME OF MONITORING.
2. THE FACILITY MAY EXCLUDE DANGEROUS AREAS SUCH AS ROADS, THE ACTIVE MTA AREA, TRUCK TRAILER AREAS, CONSTRUCTION AREAS, AREAS WITH SNOW OR ICE COVER, AND SLOPES STEEPER THAN ONE HORIZONTAL TO SIX VERTICAL (1:6).
3. MONITORING TO BE PERFORMED IN ACCORDANCE WITH NPS 40 CFR 60.756(f).
4. BASE MAP TAKEN FROM SHEET 2 DATED JANUARY 1999, FROM A SET ENTITLED "LANDFILL GAS AND LEACHATE EXTRACTION SYSTEM MONITORING - AS-BUILT PLANS" PREPARED BY STS CONSULTANTS, LTD. EXISTING CONTOURS BASED ON SEPTEMBER 1997 AERIAL TOPOGRAPHY.

Surface Emissions Monitoring under XXX



Tier 4 Demonstration

WWW & EG

- Tier 1 – calculated NMOC mass emission rate (conservative)
- Tier 2 – site-specific NMOC concentration by sampling
- Tier 3 – site specific methane generation rate constant (rarely used)

XXX & Cf

- Can use even if over design capacity and NMOC concentration over thresholds
- Site demonstrates 4 consecutive quarters below 500 ppm methane
- 30-meter interval path with winds < 5 mph

WWW & EG

- Tier 1 – calculated NMOC mass emission rate (conservative)
- Tier 2 – site-specific NMOC concentration by sampling
- Tier 3 – site specific methane generation rate constant (rarely used)

XXX & Cf



Can use even if over design capacity and NMOC concentration over thresholds



Site demonstrates 4 consecutive quarters below 500 ppm methane

- 30-meter interval path **during typical meteorological conditions**
- **Allow 10-day corrective action period**

Startup, Shutdown, and Malfunction (SSM)

WWW & EG

- Applies at all times **except** during SSM periods
- 5-day GCCS and 1-hour treatment or control devices downtime limitations for SSM events

XXX & Cf

- Require compliance at **all** times
- Eliminate 1-hour/5-day allowable downtime
- Calculate excess emissions during all SSM events

Startup, Shutdown, and Malfunction (SSM) Industry Feedback

WWW & EG

- Applies at all times except during SSM periods
- 5-day GCCS and 1-hour treatment or control devices downtime limitations for SSM events

XXX & Cf



Require compliance at all times



Eliminate 1-hour/5-day allowable downtime



Calculate excess emissions during all SSM events

Updating GCCS Design Plan

WWW & EG

- Initial GCCS design plan within 1 year of NMOC of 50 Mg/yr
- No clarification on updating

XXX & Cf

- Within 90 days of waste placement in an area not previously covered
- Before expanding GCCS to an area not described in prior design plan
- Requires agency approval

Updating GCCS Design Plan

Industry Feedback

WWW & EG

- Initial GCCS design plan within 1 year of NMOC of 50 Mg/yr
- No clarification on updating

XXX & Cf



Within 90 days of waste placement in an area not previously covered



Before expanding GCCS to an area not described in prior design plan

- **De facto approval within 60 days**

LFG Treatment

Subpart WWW

- No specifics in rule

XXX & Cf

- Requires monitoring plan approved by agency
- Includes recordkeeping to demonstrate proper operation of system
- Allows treated LFG to be used in other beneficial use devices

WWW & EG

- No specifics in rule

XXX & Cf

- Requires monitoring plan ~~approved by agency~~



Includes recordkeeping to demonstrate proper operation of system



Allows treated LFG to be used in other beneficial use devices

Where do we go from here?

- October 26, 2015 – deadline for public comment on both proposals
- July 2016 - anticipated release of final NSPS/EG rules
 - NSPS rule will be active immediately (July 2016)
 - States will have 9 months to submit state plans to implement EG (by April 2017)
 - EPA then has 4 months to approve state plans (by August 2017)
- No additional comment/review time on rules, which could change based on comments received

Thank you!

Questions on Proposed NSPS/EG Rules?

Curious how proposed NSPS/EG rules impact your landfill?

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